Recycling Incentives

Overview
The reason individuals and businesses decide to recycle may be based on economic or other factors. Various factors can influence those decisions; some may be incentives and some disincentives. From the perspective of increasing the overall magnitude of diversion of materials from disposal, through recycling, there are several incentives/disincentive options. This paper discusses some of the additional incentives that may be available. In general incentives refer to items that would motivate or induce positive actions. Disincentives are things that might also motivate or induce actions, but likely more out of a concern or fear of consequences. Incentives may create many types of rewards (e.g., waste diversion, financial, moral, or personal). This paper does not address moral and personal incentives options other than those that may result from behavioral change through education. However, it is acknowledged that peer pressure and group dynamics can also be contributing and motivating factors.

It is important to note that many of the changes required to significantly increase recycling will require changes in law, regulation or ordinances; these changes are also forms of incentives/disincentives. Many of the options presented below may be more applicable to increases in residential recycling but also include incentive options to increase recycling from commercial/business and construction and demolition waste generation sources.

Incentives tend to change management options and possibly disposal practices, but do not always reduce the quantity of materials generated (requiring management).

Current Programs
The Lincoln and Lancaster County programs provide incentives to current recycling efforts through a variety of mechanisms including:

- Educational brochures, web-sites, speaker outreach to schools, videos, as well as promotion of public and private waste diversion programs
- Waste Audits to commercial business (via WasteCap Nebraska)
- Material Reuse (via not-for-profits)
- Subsidies to various programs (via Occupation Tax and Grants), such as:
  - Transfer Station
  - Compost Site
  - Recycling Drop-off sites
  - Appliance De-manufacturing
  - Household Hazardous Waste
  - Construction and Demolition Waste Landfill
- Recycling Drop-off Centers (No charge drop-off sites)
- Toxics Reduction through household hazardous waste (HHW) (no charge) and Conditionally Exempt Small Quantity Generator (CESQG) programs (limited charges), and others.
Private and not-for-profits organizations provide a wide variety of recycling incentives including such programs as:

- Waste exchanges and reuse options for a wide array of materials (most at little or no charge). This includes various source reduction options.
- Keep Lincoln & Lancaster County Beautiful (assistance with cleanup and mini-grants)
- Take back programs by businesses
- Recycling rewards programs
- Product stewardship/extended producer responsibility initiatives

More detailed information on various system, facilities and programs can be found on City’s recycling website [http://lincoln.ne.gov/city/pworks/waste/sldwaste/recycle/](http://lincoln.ne.gov/city/pworks/waste/sldwaste/recycle/) and in the Lincoln-Lancaster County’s Official 2012 Waste Reduction & Recycling Guide, which is also available through the City’s Solid Waste Operation’s website.

Source separated residential, commercial and construction and demolition recyclables, (separated at the source) are not regulated under Lincoln Municipal Code (LMC) (e.g., source separated recycling are excluded from the definition of “refuse”, and as such vehicles and containers used to provide those services are not subject to the regulations associated with licensing, inspection and other refuse management provision of LMC 8.32 - Solid Waste), including the Occupation Tax.

**Generation and Diversion**

Topical papers on or related to source reduction, as well as residential and commercial recycling and diversion, provide additional detailed information on current quantities of waste generation and diversion rates. Additional information is also provided in the Needs Assessment, which looks at current generation and diversion rates and projects disposal capacity requirements into the future. This information is not repeated in this paper. This paper focuses on options that might be utilized as incentives or methods to increase existing diversion rates and practices through various future systems, facilities and programs. Key considerations (existing conditions) to be addressed in evaluating incentives include the following:

- Currently, it is estimated that only 24 percent of the occupied households in the Planning Area have curbside recycling services. These are households that subscribe (are charged a fee) for these services.
- LMC 5.41 establishes regulation for: recycling processing centers; recycling centers (buy-back centers); and recycling drop-off centers. Source separated recyclables are specifically excluded from current regulations related to vehicle licensing, minimum service levels, and reporting requirements.
- The quantities of recyclables diverted through the Planning Area wide drop-off centers, compost and wood waste area, appliance demanufacturing, and curbside recycling in FY 2010/2011 is equivalent to approximately 9 percent of the total municipal solid waste (MSW) stream.
- The Nebraska Department of Environmental Quality’s (NDEQ) composition study reports that the three main components of Bluff Road Landfill’s MSW waste (combined residential and commercial waste) stream (by weight) are paper fibers (44 percent), plastics (19 percent) and food (16 percent).
- In FY 2010-2011 the Bluff Road Landfill was used to dispose of approximately 287,210 tons of MSW and the N.48th Street Landfill was used to dispose of approximately 76,337 tons of construction and demolition waste, with an estimated 17,709 tons of refuse reported as exported from Lancaster County.
Calculated diversion rates for the Planning Area are portrayed in Figure 1.

**Figure 1 – 2011 Waste Disposal and Diversion, by Percentage**

Program (Facility/System) Options

Incentive options can take many forms; some are very program specific, most are based in some measure on economic incentives/disincentives and will involve changes in laws, regulations, or ordinances to implement. Examples of incentive programs are also discussed in the technical paper on Source Reduction. General options discussed in this paper fall within the following categories:

- Status Quo
- Education
- Availability/Access/Convenience
- Fees/Rates
- Bans, Restrictions and Mandates
- Grants or Subsidies

As noted above the status quo consists of current educational efforts, waste audits, subsidies, drop-off centers, toxics reduction programs, waste exchanges and other initiatives. A portion of these programs are also a part of the current source reduction efforts. Many of the aspects of these programs are also applicable to additional incentive options, which in many cases may be enhancements of current programs. Also, many of the publicly provided programs receive some form of economic subsidy. The status quo also includes privately provided voluntary, subscription type residential recycling programs, existing processing and buy-back centers, not-
for-profit/charitable material drop-off and reuse programs, and special materials management programs (e.g., product stewardship and extended producer responsibility). These may also be subsidized by private businesses or other funding sources.

**Education**

Education/behavioral change is considered an essential element in maintaining current levels of recycling and in increasing the quantity and percentage of materials recycled. While education is important to encourage, promote and sustain recycling, if the overall planning goal is to significantly increase the quantities of materials recycled then additional or expanded systems, facilities and programs are anticipated to be necessary. An educational effort will be important in implementing any (change to) selected systems, facilities or programs, especially programs that involve large scale increases in recycling, changing existing system alternatives, fees and rates, and bans or mandate.

**Availability/Access/Convenience**

A significant incentive to increase recycling is improving ease and convenience of systems, facilities and programs. For this reason mandated or universally available curbside residential recyclables collection programs have higher diversion rates than drop-off centers. Studies used to locate various services (groceries, fuel, shopping), show that access and convenience (as well as cost) are significant variables in deciding to locate and use a service. Access, in terms of the ability to obtain or make use of recycling programs is also important; this is one benefit that 24/7 access to existing City drop-off facilities provides. Limited access is also often cited as disincentive to recycling, e.g., it is not accessible, convenient or available, when it is needed.

**Fees/Rates**

Fees and rates can be among the largest incentives and disincentives to recycling. Where added fees apply to recycling, above and beyond what is deemed necessary for disposal, it can be a disincentive to recycling. The amount of the fee and the added cost is likely one reason only 24 percent of the households and many businesses do not subscribe to recycling. There are two basic options to remove this disincentive that would increases the quantities of materials recycled in the Planning Area: 1) single fee service requirement; and, 2) variable rate/variable fee or volume based service, also known as “pay-as-you-throw” (PAYT).

Single fee systems for waste services, including recycling, can take many forms but are usually tied to a defined minimum level of service. The examples of single fee systems cited in the Residential Recycling and Diversion paper include:

- Cities of Bellevue and Ralston, Nebraska, where residents pay a single price ($12.50 and $13.38 per month, respectively) for garbage, recyclables and yard waste collection. There are many similar examples of single fee system in communities across the US.
- Saint Louis County, Missouri, requires weekly trash service. For one and two family households that service includes a “minimum level of service” of once weekly trash pickup, once weekly recyclables pickup, and twice a year bulk items pick-up. The hauler cannot provide less that those three services for one base price. (Source: [http://www.co.st-louis.mo.us/HealthandWellness/RecyclingandSolidWaste/WasteDisposal/TrashandRecyclingService#recyclingservice](http://www.co.st-louis.mo.us/HealthandWellness/RecyclingandSolidWaste/WasteDisposal/TrashandRecyclingService#recyclingservice), retrieved August 21, 2012)

These types of minimum levels of service can also be extended (likely by ordinance or laws) to businesses, industries and institutions as an incentive to recycle. The economic implications to waste generators of such a requirement will be a function of the efficiency of the refuse
collection system and details associated with how such a system is implemented (e.g., what materials the hauler must collect for recycling).

PAYT systems provide an economic incentive to recycle (and to generate less waste) because it charges more for greater quantities of waste set-out without charging more for increased quantities of recyclables set out. Traditionally, residential solid waste collection system customers have a uniform fee for waste collection and disposal services regardless of how much—or how little—refuse is set out for disposal. Similar to minimum level of service programs these typically require ordinances/laws to implement and the economic implications to waste generators will be a function of the efficiency of the refuse collection system and details associated with how such a system is implemented. The PAYT programs are considered, in some respects, analogous to rate structures associated with other utilities, where consumers pay based on the amount of water, electricity or gas utilized. For PAYT systems to be an effective incentive to recycle (disincentive to generate waste) the rate structure differential between various levels of refuse and recyclables collection services need to be significant. There are numerous examples that could be explored if this type of option were to be considered as part of the Solid Waste Plan 2040. One example is the structure used in Boulder County, Colorado. For the unincorporated areas, by ordinance (Boulder County Ordinance No. 2007 – 01), the County has established the following provisions as it relates to incentivizing recycling and use of volume based rate:

- Haulers that provide garbage collection services to residential customers shall also provide to these customers weekly or bi-weekly collection of recyclables and shall charge a single rate for garbage collection and collection of unlimited amounts of recyclable material.
- Each Hauler shall determine a single standardized garbage container volume of approximately thirty-three (33) gallons which is the typical volume of a garbage bag or garbage can used by a residential customer. The hauler shall establish a single standardized price to be charged for the collection of this base volume. The hauler shall charge the same standardized price for each base volume unit of garbage subscribed regardless of the number of garbage containers, or standardized volume, placed for collection by the customer.

By establishing a base volume and requiring a doubling of fees for each doubling of volume (along with unlimited recycling (at no added cost)), the ordinance is intended to provide substantial incentive for recycling and volume reduction.

Skumatz Economic Research Associates (SERA), a leading authority on PAYT, indicated that in 2006 7,100 communities in the US used some form of volume based or PAYT system (Resource Recycling, October 2006). SERA research suggests that “PAYT reduces the total of residential trash disposed by about 17 percentage points. About one-third of this impact is an increase in recycling, about one-third is an increase in organics diversion [yard waste] and about one-third is source reduction/waste prevention.” (Recycling Incentives, Part 1, Lisa Skumatz, et. al., Resource Recycling, February, 2011).

In a recent magazine article a representative of the Solid Waste Association of North America (SWANA) commented that if PAYT is done only on the trash part [as opposed to total volume], that cost is inflated to pay for recycling. “It perhaps sends a false impression that curbside recyclables collection is free.” (Waste Age, March 2012).

Many businesses (commercial, industrial, institutions) as well as construction and demolition operations already rely on a form of volume based or PAYT system, in that they often pay fees based largely on a container size, weight of waste, and the frequency with which it is collected. In these instances, unless recycling is mandated or the refuse hauling company provides a
discount for containers of recyclable materials there may not be significant incentives to increase recycling. This concept is also in use for the management of yard waste (see separate technical paper) in the current Planning Area, via subscription collection system (e.g., if you choose to have collected yard waste removed from your residence or business you typically pay an added fee (pay as you throw)). The extent to which this is volume based in the Planning Area has not been determined.

On the USEPA’s website it states “EPA supports this new approach to solid waste management, because it encompasses three interrelated components that are key to successful community programs:

• Environmental Sustainability…
• Economic Sustainability…
• Equity”


In the area of residential recycling there are also programs utilizing recycling credit programs to provide households with financial or other incentives for taking part in recycling. Many of the early programs that provide flat dollar rebates as incentives to recycle have been discontinued. Programs that has been receiving significant national attention include “RecycleBank” and “Think Green Rewards”, which involve “recycling credit” programs that “pay” points for recycling that can be redeemed on the program’s website for coupons for dollars off purchases, or for gift cards from national and local sponsors. These are generally subscription/fee based programs and are currently available from at least one source in Lincoln.

While relatively new across the U.S., some cities are helping to off-set the cost of collecting recyclables and/or organics by reducing trash collection to every-other-week (Portland, OR; Renton, WA; Toronto, ON) or monthly/on-call (Boulder, CO; Arcata, CA). Reducing the frequency of trash collection can be viewed as an incentive encouraging greater diversion or disincentive to waste generation.

As discussed in the paper under Product Stewardship, extended producer responsibility laws may also use fees/rates to increase recycling. Under the extended producer responsibility laws the cost of such take back or end of life cost are included in the initial purchase price of the product.

**Bans, Restrictions and Mandates**

As discussed under the technical paper on Source Reduction, where educational initiative generally focuses on voluntary participation, legislation can also be used to mandate changes. Federal, state and some local legislation/ordinances can be used to accelerate the implementation of source reduction and recycling programs. Legislation/ordinance can also have unforeseen side effects and will need to be considered carefully.

Bans and restriction are an indirect means of providing recycling incentives (disincentives targeting behavioral change). They do not necessarily reduce waste but rather use legislation to change management options. In Nebraska certain materials are banned from landfill disposal (e.g., tires, waste oils, lead acid batteries, appliances, and yard waste). In addition, Lincoln businesses are not allowed to dispose of hazardous wastes in the landfill. These do not necessarily reduce waste generation but create the need for alternate management approaches, which often include recycling and reuse. Bans on tires, batteries and appliances do not serve to decrease the quantity of materials purchased or the need for end-of life management.
Mandates are often viewed as disincentives. To be effective they also need to be supported by penalties, fines or other consequences (e.g., loss of landfill privileges, loss of hauler licenses, higher tipping fees).

Minimum levels of service regulation/ordinances are discussed above under Fees/Rates. They create both restrictions and mandates but can be effective in behavior change and in increasing recycling, especially as it relates to residential MSW. Applying minimum level of service regulations to business, with the intention of increasing recycling, can create added challenges and potential complications for certain business. While apartment (multiplex) facilities are considered under the technical paper on Commercial Recycling and Diversion the concept of minimum levels of service could be used with these facilities to significantly increase recycling; this may not be without challenges to older facilities or where space and infrastructure are viewed as impediments to implementation.

Recently a select group of communities in the US have developed policies and programs (mandates) that require residential waste recycling and include penalties (e.g., fines and lack of garbage pick-up) for those who do not recycle or who include recyclable materials in their waste. Mandated recycling/diversion can also include recovery and diversion requirements associated with demolition or construction projects, especially projects that utilize public funds. Where mandated recycling is required for construction demolition projects they generally require submission of a waste management plan, as part of the permitting process.

Mandates can also be used in new construction, and in the construction and demolition industries to increase recycling. A wide array of strategies that have been used to increase recycling; some examples of such mandate, as it relates to these industries include:

- **Building Specification**: where new construction is required to provide infrastructure (in businesses) to accommodate and facilitate recycling; the determination of compliance is done as part of the building permit review process. Building specification system can also be used in new construction to dictate or provide priority to use of recycled materials, thus helping to support markets and create market demand for certain materials. This concept is a significant cornerstone of the Green Building Council and their Leadership in Energy and Environmental Design (LEED) certification program.

- **Demolition and Deconstruction**: where demolition or reconstruction projects establish or are mandated to prepare a demolition materials management plan and document compliance. Again, such mandated programs require administrative oversight. These are considered hard to enforce on private sector projects where lowest achievable costs can be a significant consideration in project development.

- **Utilization of Recycled Materials**: where minimum content of recycled materials are specified in new construction; again, this is a cornerstone of the LEED certification program. Another key concept, which is focused on creating market incentives for use of recycled products through mandates on the inclusion of “buy-recycled" provision in purchasing policies and government construction specification. As a simple example, the City and County standard specification could be modified to include provisions to use materials such as local compost in construction projects. This would create added markets for the City’s LinGro compost. There are numerous other options for incorporating buy-recycled preference mandate provisions into local purchasing and construction practices. These could also include providing pricing advantages to projects that meet certain recycled product utilization levels.

It is important to note that mandates can be used to increase waste recycling and diversion, but may result in added costs to building construction and demolition projects.
Grants or Subsidies

For grants and subsidies a source of money is necessary to provide the payouts and competition often exists for limited amounts of available funding. These may be one-time funding or more sustained funding sources. Nebraska’s Integrated Solid Waste Management Act imposes a fee, to be paid to NDEQ, of $1.25 per ton for each ton of waste landfill.

Fifty percent of the $1.25 per ton fee is placed in the Waste Reduction and Recycling Incentive Fund; this fund is used to make grants to counties, municipalities, and agencies for the purposes of planning and implementing facilities and systems to further the goals of the Integrated Solid Waste Management Act. The grant proceeds can not be used to fund landfill closure site assessments, closure, monitoring, or investigative or corrective action costs.

The Nebraska Legislature has also established a Landfill Disposal Fee Rebate which sets aside a portion of the Waste Reduction and Recycling Fund to provide a rebate to political subdivisions that have developed and are implementing a written purchasing policy requiring a preference for purchasing products, materials or supplies that are manufactured or produced from recycled material. The City of Lincoln does participate and has received rebates from this fund.

The Waste Reduction and Recycling Act imposes a fee of $1 per tire fee on the retail sale of new tires in Nebraska. A portion of the grants is also obligated to fund scrap tire recycling or reduction projects, the remained can be used for other grants, as provided for in the Waste Reduction and Recycling Act.

Nebraska also has a Litter Reduction and Recycling Grant Program, which provides funds for:

1. Public education, motivation and participation,
2. Cleanup of public areas within the State.
3. New or improved community recycling and source separation programs

The Nebraska Environmental Trust (NET) derives revenue nearly 50 percent of its income from Nebraska Lottery proceeds. The Trust sets funding category areas for five-year periods, in a process involving members of the Nebraska public and conservation communities. Until July 2015, the Trust will consider funding proposals in the following priority areas:

- Habitat
- Surface and Ground Water
- Waste Management
- Air Quality
- Soil Management

The City of Lincoln, through its Occupation Tax, raises money to support/subsidize (incentivize) various existing solid waste systems, and recycling and waste diversion facilities and programs, excluding solid waste disposal at the Bluff Road landfill. The City also provides economic and technical support (e.g., waste audits, through WasteCap of Nebraska), to encourage recycling and source reduction.

New grant or subsidy programs could be developed by the City or in conjunction with specific funding sources to further encourage/promote the development of markets or new products for recycled materials, or to help businesses (e.g., through economic development grants or subsidies) implement systems, facilities and programs targeting source reduction, recycling and additional waste diversion. Again, the key will be identification of funding sources and mechanisms for grants and subsidies.
Appendix 1 is a state-by-state summary of State Recycling Tax Incentives, provided by the USEPA. This is intended to illustrate examples of what is being done at a state level in locations outside Nebraska.

**Options Evaluation**

There are a wide array of issue and options associated with programs that provide incentives for recycling. It is not always possible to compare them to each other. Consistent with the guiding evaluation criteria developed for use in the Solid Waste Plan 2040, the recycling incentives have been further evaluated based on the considerations shown in Table 2. Options related to the status quo and education are discussed in numerous technical papers and are not further evaluated in this table. To significantly increase diversion through recycling, a combination of incentives and disincentives, including financial inducements and laws/ordinances/regulations will likely be necessary. Implementing such measure will almost certainly involve stakeholder and community participation.
### Table 2 – Options Evaluation

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Availability/Access/Convenience</th>
<th>Fees/Rates</th>
<th>Bans, Restrictions and Mandates</th>
<th>Grants or Subsidies</th>
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<tbody>
<tr>
<td>Waste Reduction/</td>
<td>Recycling is expected to increase with increased access and convenience to recycling opportunities. City wide curbside recycling is anticipated to produce the greatest levels of residential recycling.</td>
<td>Fees and Rates are specific mechanisms used to increase recycling and source reduction. Fees and rates need to be carefully considered as they can also tend to drive exports of waste containing recoverable recyclables. Fees and rates can attempt to reduce landfilling, but may not in and of themselves reduce the quantity of material generated.</td>
<td>Bans and restrictions do not in and of themselves reduce the quantity of waste generation, but can be effective in directing materials away from local landfills and toward recycling programs. Bans, restriction and mandates can help create markets for diverted materials. Bans and mandates can lead to greater waste exports if only implemented at a local level.</td>
<td>Grants and subsidies can be used to help establish and maintain certain programs or encourage new markets. Long-term they may or may not represent sustainable funding approaches for all programs. Non-sustainable funding represents a risk to programs success and public acceptance.</td>
</tr>
<tr>
<td>Diversion</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Technical Requirements</td>
<td>The capacity of existing processing facilities to handle increased quantities of recyclables may need to be evaluated. Programs to incentivized recycling may not benefit all existing recycling programs. Program options to increase availability, access and convenience of recycling options is considered compatible with other waste management options and can be structured to be effective and flexible.</td>
<td>The current Occupation Tax provides revenue to help subsidize recycling. Establishing new rates/fees will need to be carefully considered to ensure they effectively achieve the desired level of recycling. There are many examples across the US where rates and fees have been used to increase waste recycling.</td>
<td>The capacity of existing processing facilities to a handle increased quantities of recyclables may need to be evaluated. Programs to incentivized recycling may not benefit all existing recycling programs. Some level of risk results from bans, restriction and mandates, unless solutions are available to deal with the affected material and enforcement is provided. It can be difficult to construct bans and mandates that are flexible and compatible with all other programs.</td>
<td>Grants and subsidies can help with establishing initial infrastructure and new programs. Grants and subsidies represent a level of risk because they are subject to changes that may be beyond the control of the program they are used to support.</td>
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<tr>
<td>Environmental Impact</td>
<td>Not applicable. Health and safety will be a concern with all programs, not limited to those with increased convenience.</td>
<td>Incentives that increase recycling are viewed as helping to conserve resources (material and energy). Fees and rate structures can also be used as an incentive/disincentive to help reduce the toxicity of waste generated.</td>
<td>Many of the current bans in Nebraska were intended to provide for increased environmental protection and landfill capacity. Many of the current regulations (restrictions and mandates) related to solid waste management are intended to reduce waste toxicity and be protective of human health and the environment (air, water, land). Extending regulations to recycling is generally understood to target increase conservation of resources and reduction in emissions.</td>
<td>Some grant programs are based on environmental impact and reduced emissions considerations or health and safety. The City and County currently rely upon grants and subsidies to fund the toxics reduction program, composting operation, construction and demolition landfill, transfer station, education programs and other solid waste activities that include goals for recycling, waste reduction and environmental protection.</td>
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<tr>
<td>Economics</td>
<td>Option/incentives to increase availability/access/convenience will need to be evaluated in the future as specific programs are considered.</td>
<td>Fees and rates can have a direct or indirect affect on residents and businesses. To minimize cost impacts to residents and businesses, incentives to increase recycling</td>
<td>Bans, restriction and mandates need to consider the costs and benefits they will produce. In general these will increase the cost of service to residents and businesses.</td>
<td>Grants and subsidies can be used to help fund certain programs or fund new facilities. Grants and certain low interest or tax deferred subsidies can be used as an</td>
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</table>
### Evaluation Criteria

<table>
<thead>
<tr>
<th>Availability/Access/Convenience</th>
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<tbody>
<tr>
<td>Funding sources will be specific to the program options selected. Improvements in efficiency may help defray overall program costs. Certain programs attempt to directly assign program costs to system users, such as PAYT.</td>
<td>would need to also be implemented in an efficient manner.</td>
<td>Funding new programs will be a major consideration; it will be important to examine new programs in the context of providing incentives without generating significant cost increase. Restriction and mandates can be used to create funding mechanisms as well as new markets.</td>
<td>economic development mechanism. Long-term they may or may not represent sustainable funding approaches for all programs. Reliance on grants and subsidies can create certain economic risk for sponsors, residents and business.</td>
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### Implementation Viability

| Most programs involving incentives will require laws/regulations/ordinance changes to implement. Social/political acceptability will be a factor in any options that attempts to change the current system. Universally accessible residential curbside recycling could reduce the number of drop-off centers currently in use. Permitting systems could be used as part of the incentives/disincentives to facilitate implementation of new programs. | Most programs involving incentives will require laws/regulations/ordinance changes to implement, including those that use rates and fees as incentives. Social/political acceptability will be a factor in any options that attempts to change the current system using rates and fees. Rates and fees to incentivize recycling may need to be implemented, in part through the permitting process to facilitate implementation of new programs. | Bans, restriction and mandates all require legislative or regulatory changes. The social/political acceptability will be a function of cost and benefit and are generally program/product specific. Bans, restriction and mandates can in many cases be used to shift funding responsibility to responsible parties and provide significant diversion/recycling rates. Changes to purchasing practices and specifications used by units of government may be easier to accomplish than large scale disposal bans on select materials. | There is generally significant competition for limited grant funds and so they may not always represent viable funding strategies (short- and long-term) for program implementation. These mechanisms are designed to provide incentives, but are subject to a variety of legislative/regulatory commitments for longevity. They are generally socially/politically acceptable incentives. They do not always provide a link between waste generators and recycling. |
Relationship to Guiding Principles and Goals

The current recycling programs rely upon a range of incentives to help encourage participation. Additional incentives could significantly increase levels of recycling. As it relates to the Guiding Principles and Goals of the Solid Waste Plan 2040, the recycling incentives can be directly applicable, as further noted below.

- **Emphasize the waste management hierarchy**: Recycling is one of the most preferred waste management methods in the hierarchy (immediately after reduce and reuse) in that it places maximum emphasis on options to recover materials and recycle them into new products. Current programs provide incentives to recycle and are compatible with this hierarchy. To increase recycling above the status quo, additional programs, with added incentives, convenience and possibly mandates would result in significantly higher level of residential recyclables diversion.

- **Encourage public/private partnerships**: A challenge in significantly increasing recycling will be changing the status quo. The current recycling system is built around public and private management system as well as a limited set of public and private incentives for recycling and source reduction. Incentives are a mechanism to change both the behavior of residents and business, which are also public-private partners. The largest current incentives are the City provided drop-off sites, City provided education and promotional outreach, and private take-back/buy-back centers. Implementation of larger volume recycling programs will require changes in many of the waste management programs currently managed by private entities, specifically waste collection and hauling (residential, commercial and C&D). It is assumed that changes recommended in the Solid Waste Plan 2040 would be developed with private parties providing collection and processing services and incentives/disincentives to encourage the expansion and participation in those programs.

- **Ensure sufficient system capacity**: Incentives for recycling do not necessarily ensure sufficient system capacity, but can be used to encourage or support expanded capacity and markets for diverted materials. Available processing capacity may need to be evaluated as part of any program that provides incentives to significantly expand recycling diversion rates.

- **Engage the community**: Incentives are intended to motivate or induce positive actions. As such they need to involve and engage the community. Any expanded recycling and diversion program would need to engage the residents and businesses to encourage them to divert more recyclables from disposal and possible increase their knowledge of conservation, source reduction and reuse alternatives. To optimize success of an expanded curbside recycling program will also requires educating (behavior change) to encouraging participation and sustained participation.

- **Embrace sustainable principles**: Maximizing recovery of materials though recycling into new products recognizes that waste is not inevitable and discarded materials are potentially valuable resources. Incentives are one means of reinforcing these principles.

Summary

There are many types of incentive program options available, most of which are consistent with the Solid Waste Plan 2040 guiding principles and the waste management hierarchy. From the perspective of significantly increasing the overall magnitude of diversion of materials from disposal, through recycling, there are various incentives/disincentive options. In general incentives refer to items that would motivate or induce positive actions. Many of the changes
required to significantly increase recycling will require changes in law, regulation or ordinances; these changes are also forms of incentives/disincentives. Lincoln and Lancaster County provides incentives to current recycling efforts through a variety of mechanisms, including subsidies. Private and not-for-profits organizations also provide a wide variety of recycling incentives. Two of the most significant incentives that can be used to increase recycling are: 1) improving ease and convenience of systems, facilities and programs; and, 2) providing minimum level of service mandates. Where added fees apply to recycling, above and beyond what is deemed necessary for disposal, it can be a disincentive to recycling. Bans and restriction are an indirect means of providing recycling incentives (disincentives targeting behavioral change); they do not necessarily reduce the overall quantity of materials generated but rather use legislation to change to management options. Incentive options can take many forms; some are very program specific, most are based in some measure on economic incentives/disincentives and will involve changes in laws, regulations or ordinances to implement.
Appendix
## State Recycling Tax Incentives

Note: EPA no longer updates this information, but it may be useful as a reference or resource.

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
<th>Eligible Applicants</th>
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<tbody>
<tr>
<td>AZ</td>
<td>Recycling equipment income tax credit for individuals and corporations equaling 10 percent of the installed cost of the equipment. Equipment must process postconsumer recyclables or produce finished products composed of at least 25 percent postconsumer recycled materials.</td>
<td>Individuals and corporations.</td>
</tr>
<tr>
<td>AR</td>
<td>Recycling equipment income tax credit equaling 30 percent of the equipment costs. Equipment must handle at least 10 percent postconsumer solid waste.</td>
<td>Recycling businesses.</td>
</tr>
<tr>
<td>DE</td>
<td>Recycling investment tax credit totaling $500 for each $100,000 invested. Recycling employment income tax credit of $500 for each new employee added as a result of incorporating recycled products into the process.</td>
<td>Recycling businesses.</td>
</tr>
<tr>
<td>FL</td>
<td>Recycling investment tax credit totaling $500 for each $100,000 invested. Recycling employment income tax credit of $500 for each new employee added as a result of incorporating recycled products into the process.</td>
<td>Recycling businesses.</td>
</tr>
<tr>
<td>GA</td>
<td>Personal income tax credit for investment in recycling facilities, machinery, or equipment. Amount</td>
<td>Manufacturing industries.</td>
</tr>
<tr>
<td>State</td>
<td>Description</td>
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</tr>
<tr>
<td>HI</td>
<td>Recycling equipment sales tax reduction of between 0.5 and 4 percent.</td>
<td></td>
</tr>
<tr>
<td>IA</td>
<td>Personal and real property tax exemptions for machinery and equipment used for recycling or reprocessing of paper, cardboard, or plastic products. 100 percent sales tax exemption for purchases of industrial machinery, equipment, computers, and replacement parts used in the recycling or reprocessing of waste products.</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Recycling equipment income tax credit of up to 20 percent of equipment costs but not exceeding $30,000 per year. Requires that 90 percent of the equipment’s product be made from recyclables.</td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>Recycling equipment personal income tax credit of up to 50 percent of the equipment costs. Recycling equipment sales and use tax exemption. Includes equipment used to collect, separate, compress, bale, shred, or handle waste materials for recycling.</td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td>Recycling equipment income tax credit for 20 percent of recycling equipment costs, less any other credits that are claimed. Equipment must process 100 percent postconsumer or recovered materials or make a product that contains 50 percent postconsumer or recovered materials. State, parish, and local property tax exemptions for recycling machinery and equipment for up to 10 years. Applies only to recycling manufacturing companies.</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>Personal property tax exemption on tools, implements, machinery, and manufacturing apparatus or engines. The exemption does not apply in certain counties.</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Description</td>
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</tr>
<tr>
<td>MN</td>
<td>Sales tax exemption for construction costs for resource recovery facilities. Recycling processing equipment tax exemption for recycling processors only. Rebate of 6.5 or 7 percent of the equipment costs depending on whether the business is located in Minnesota. Equipment sales tax exemption for paper recycling companies.</td>
<td></td>
</tr>
<tr>
<td>MT</td>
<td>Recycling equipment income tax credit of 25 percent for the first $250,000 invested, 15 percent for the next $250,000, and 5 percent on the next $500,000. Reclaimable material income tax credit for taxpayers who purchase a product made from reclaimed materials. Tax credit is equal to 5 percent of the cost of the product.</td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>Real and personal property tax, corporate state income tax, and franchise tax deductions for recycling plants, facilities, and/or equipment. Businesses that purchase or construct facilities or equipment for recycling or resource recovery in North Carolina.</td>
<td></td>
</tr>
<tr>
<td>ND</td>
<td>Recycling equipment sales and use tax exemption for recycling machinery and equipment in new or expanding recycling facilities. Recycling businesses.</td>
<td></td>
</tr>
<tr>
<td>NJ</td>
<td>Sales tax exemption for the purchase of recycling equipment. Recycling businesses.</td>
<td></td>
</tr>
<tr>
<td>NM</td>
<td>Recycling equipment income tax credit equal to 5 percent of equipment costs. Tax credit is limited to recycling equipment that creates jobs, rather than reducing the workforce. Recycling and manufacturing businesses.</td>
<td></td>
</tr>
<tr>
<td>NV</td>
<td>Personal property tax exemption of 75 percent for 10 years. Real property tax exemption of 25 percent for 20 years. Manufacturing and recycling companies that meet job creation and development goals and use raw material from within.</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Description</td>
<td></td>
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<tr>
<td>-------</td>
<td>-------------</td>
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</tr>
<tr>
<td>OK</td>
<td>Recycling facility income tax credit of up to 15 percent for machinery and equipment, construction and renovation, and expansion financing. Recycling businesses only, large manufacturers.</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Three separate recycling tax credit programs with the credit taken against Oregon income tax. Credit can be taken from only one program. Reclaimed plastic tax credit of 50 percent of the plastic recycling capital investment taken at a rate of 10 percent per year for 5 years. Pollution control facility tax credit of 50 percent of the recycling equipment and facility capital cost taken at a rate of 5 percent per year for 10 years. Business energy tax credit of 35 percent of the recycling equipment capital investment taken over 5 years. See description.</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>Recycling equipment sales and use tax exemption for machines used in the collection, separation, processing, or reuse of materials that would otherwise become solid waste. Recycling and manufacturing businesses.</td>
<td></td>
</tr>
<tr>
<td>TX</td>
<td>Any equipment used for pollution control can receive a use determination from TCEQ that can be turned in to the appraisal district to get a property tax exemption. However, equipment used partially for pollution control and partly for production is eligible only for a partial use determination (i.e., you can only get the pollution control portion of the value). Since recycling is generally for pollution control and production, the equipment may not be eligible for a 100% use determination. See description.</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>Recycling income tax credits of 5 percent on equipment and machinery costs and 20 percent on operating costs (maximum $2,000). Only available for recycling collectors, processors, and manufacturers located in state Recycling Market Development Zones. Sales tax exemption for manufacturers purchasing and leasing machinery and equipment. Sales tax exemptions range from 30 to 100 percent depending on what year the machinery is purchased. Available for all manufacturers, including recyclers. See description.</td>
<td></td>
</tr>
</tbody>
</table>
Recycling equipment income tax credit equal to 10 percent of the equipment purchase price. Machinery and equipment must be used to manufacture, process, compound, or produce items from recyclable materials.

Retail sales and use tax exemption for machinery, equipment, and power used by industrial recyclers.

Recycling property tax exemption for machinery and equipment, including parts, used exclusively and directly in waste reduction or recycling.